

13. A SPECIAL METHOD OF FISHING FOR JUVENILES
OF MAHSEER (*TOR PUTITORA*) IN THE STREAMS
OF HIMACHAL PRADESH

Besides the traditional methods of catching the mahseers and other hill stream fishes, some interesting fishing devices are also practised in Himachal Pradesh, especially for 'baiting' mahseers. The method described in the present communication is ingenious and specialised for catching the juveniles of mahseer (*Tor putitora*) and is mainly operated in the rapid and rocky streams of Western Himalayas. Though the method is based on luring the fish to the bait as described by Motwani & Srivastava (1961) for 'garua' fishing in the Ganga river system, the operation is quite different in the fast flowing mountain streams.

The method is quite prevalent in Kangra, Hamirpur and Bilaspur districts of Himachal Pradesh. It is effectively operated in the shallow parts of the streams throughout the year, except during the rains when the hill streams are swollen with flood waters. It was observed that one person, in a single operation on 31-viii-1980, collected 22 mahseer juveniles from Sheerkhad near Jhanduta in Bilaspur district of Himachal Pradesh. The operation was repeated again on the same day at three spots within 2 km stretch of Sheerkhad and the number of mahseer collected ranged from 17 to 32 in two hours. The size of fish collected by this method ranged between 98 and 212 mm.

The success of the operation mainly depends on the preparation of bait, allurement of fish to the bait and netting operation. For one single operation, about 250 gms of maize/what flour is added to a handful of raw cowdung and is soaked thoroughly, so that the entire mass can be used as bait in the shape of a ball. The bait in the form of a ball is

then put between stones in knee-deep water in the stream. To lure the maximum number of fish, the bait should preferably be kept at such a place where the gradient of the stream ends in a deep pool and the stream floor consists of pebbles and small stones.

The penetrating smell of the raw cowdung used in the bait attracts the fish to the bait. When a considerable number of fish have been lured, the person watching the operation from a distance slowly comes near the spot and quickly covers the bait and its surroundings with a cast net. The fish thus congregated around the bait get trapped in the cast net and are collected. The operation is then repeated at the various places in the same stream till the fisherman gets a catch of commercial value.

Though the 'garua' fishing in Ganga river system is also practised by luring the fish, the operation is quite different. For 'garua' fishing the bait prepared from goat entrails, goat fat, dried cowdung and crude dolphin oil is quite expensive and is cast in small bits in the shallow parts of the river, whereas in the present operation, the bait consisting of raw cowdung and wheat/maize flour is kept as a whole in the shape of a ball in the shallow part of the stream. The netting operation in the present device is carried out by one person with the help of a cast net (1/2" or 1" mesh size), while in 'garua' fishing drag nets are used, employing 4 to 6 fishermen in the operation.

The fact, that only juvenile and young mahseer, to the complete exclusion of other hill stream fishes, are caught by this device is very significant. The method thus assumes

greater importance when used with a view to procure stocking material for the rivers and lakes in the Indian uplands for the development of sport fisheries.

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REFERENCE

MOTWANI, M. P. & SRIVASTAVA, C. B. (1961): A special method of fishing for *Clupisoma garua* (Hamilton) in the Ganga river system. *J. Bombay nat. Hist. Soc.* 58(1): 287-288.

14. OBSERVATIONS ON THE BATHYMETRIC DISTRIBUTION OF
HILSA LARVAE IN MIDDLE STRETCH OF RIVER GANGA
NEAR ALLAHABAD

(With a text-figure)

Observations on the spawning of *Hilsa ilisha* (Hamilton) made by earlier workers in different rivers more or less explain the availability of eggs and larvae in surface and sub-surface layers of water. Karamchandani (1961) collected eggs and larvae of hilsa from Narmada river with the help of spawn collection net. Ravish Chandra (1962) used a surface tow net for collecting hilsa larvae from Hooghly Estuary. Pillay and Rosa (1963) observed that hilsa eggs occur in sub-surface zones, the juveniles inhabit the surface waters and the later stages move in deeper zones. But there is no information on bathymetric distribution of hilsa larvae excepting that of Ghosh & Nangpal (1968) who have determined the bathymetric preference of larvae while making collections with organdie ring net during winter breeding of hilsa in lower stretch of River Ganga. According to Ghosh & Nangpal (op. cit.), the larvae are available in surface and sub-surface layers in a total

water column of 1.3 m but they have not given further split-up of this range showing depth limit. While collecting hilsa larvae from middle stretch of Ganga river, we recorded bathymetric distribution which has been given in this communication.

The distribution of hilsa larvae with regard to different depths was studied by operating a special net made of mosquito netting (1/16" mesh), comprising three portions viz., upper, middle and lower. It was almost like a set of three spawn collection nets stitched together vertically. Each of the three cod-ends of the net was tied to a cylindrical bucket of 12 cm length and 10 cm diameter, open at both the ends. The distal ends of buckets were blocked by a piece of organdie cloth to check the escape of larvae. Two bamboo poles were put at the mouth end and the three buckets, functioning at different depths, were tied to one pole at the rear end (Fig. 1). The net was 230 cm in length, 210 cm in width,